MISSOURIENSIS

The Journal of the Native Plant Society of Missouri

VOL. 1 NO. 2 AUTUMN 1979

IN THIS ISSUE

Report of Board Meeting.....1-2
Editor's Note.....2
A Boost From Missouri Botany's Best.....3
Dash to Dot!.....3
Additional County Records.....3-6
From Possum Trot.....6-7
A Plea for Panax.....7-8
Botanizing Missouri in Illinois.....8-9
Viva Victoria Glade!.....9-10
Further Orchid Facts.....10-11
We are Not Alone.....11
Coming Up: Our Next Meeting.....11
Salvage One.....12
Officers of MONPS.....13
Membership Application Blank.....14

* * * * * * * * *

REPORT OF FIRST BOARD MEETING

Your Board came together for the first time, September 1, at Montauk State Park, as announced. Ten of the eleven Board members were present, but nontitled members of MONPS were represented only by Rick Daley of the Missouri Botanical Garden, and Gordon Maupin, who came along with Jim Wilson, to get in a little fishing. These gentlemen listened patiently to our labors, while all you others undoubtedly interpreted the significance of the Labor Day weekend in quite different ways!

Jim Wilson's Treasurer's report was certainly better than when our bank balance was last published; as of October 10, 1979 we had $810 in the bank, representing 119 members. Your arithmetic will tell you that these figures represent the happy fact that some people were nice enough to send in more than the announced regular membership fee of $5.00.....to them hearty thanks.

As you will see on the membership blank printed out on the last page of this issue, the Board also set up other categories of membership; from now on you will know just what kind of a member you are!

The Board also clarified several issues about its membership: all officers are elected for three year terms; others for terms of one, two, or three years, as indicated on page thirteen. It was also decided that, if none of the elected Board members serve the dual role of also representing the Missouri Department of Conservation, the Department of Natural Resources, or the Missouri Botanical Garden, the Board may appoint such representatives who will meet with the Board, but will not have voting rights. As presently constituted the Board has one elected member from the Missouri Department of Conservation (Jim Wilson), two from the Department of Natural Resources (John Karel and Paul Nelson). This policy was immediately put into effect when Rick Daley was asked to serve in an advisory capacity, as the representative of the Missouri Botanical Garden.

It was also decided that the Board will meet quarterly, as closely as possible to the schedule we've been following: early in June, September, December and March. Hopefully, Missouriensis will appear soon after such Board meetings, so that all members of the Society may be "au courant."

There followed some discussion of who would pay the various costs of publishing Missouriensis; the first issue cost about $275.00, a bill footed by the Department of Conservation, but this cost will be lowered when we get a bulk mailing permit. This second issue also comes to you thanks to the Department, but we hope to be sufficiently affluent to float the third issue on our own. This will involve several jobs that will require the help of volunteers: for keeping the address list up to date, folding and sticking address labels on the journals, mailing them, etc. It's NOT TO EARLY TO OFFER YOUR SERVICES RIGHT NOW!

After getting such rather boring details behind us, the Board was able to get on to more truly relevant issues, the first of which was: WHO will be recipient of material about our native flora (the sort of material that we hope will soon be pouring in from members of MONPS from all corners of the state)? Several suggestions and offers were made and discussed, but it was decided that, since the Missouri Department of Conservation has particular interest in the rare and endangered species of the state, that governmental agency should also assume responsibility for keeping records on all the native flora. A further reason for making this decision was that the Department will be a more stable repository than any individual could possibly be, even though that individual might be closely associated with a teaching institution, or some other, such as a museum or scientific society.

Two other suggestions were discussed and approved: the first, that the Society maintain a list of people in the state who are particularly interested in botany, even though they may not be members of MONPS. Such a list should be published annually in Missouriensis, to facilitate any sort of botanical forays that members of the Society may undertake. There was no discussion about who is to keep this list, and see that it is published. (Editor's note: how about a volunteer for this job?)

The second further suggestion was that, as soon as possible, MONPS should set up some sort of fund to be used in making an annual award for outstanding work in the field (or lab, or library or herbarium!) on our Missouri flora. It was also suggested and approved that the fund be called the Steyermark Award, and that the man whose name we will be using be informed of this at some time during his brief visit to the state, late in September.

Other subjects were set aside for another meeting (September 1, was drawing to a close, and the clouds were very black!): the Inventory Form that should be sent to people reporting their floral finds; a policy statement of our stands on such subjects as collecting, digging, etc., and in conjunction with this, should our Society deputize particular individuals to act as our "political arm" with an eye to getting a law passed that will put some teeth into a policy of plant protection (see Dr. Lewis' article, of particular relevance to this subject)? Finally, we noted that we must set up machinery for having Society-backed field trips, in the various regions of the state ....this will accomplish the dual purpose of furnishing fun for all, and beefing up interest in MONPS throughout the state.

The meeting was adjourned just as the dark clouds burst, and we were prevented from visiting the 40 acres of upland forest natural area included in Montauk State Park, where John Karel had promised to show us the rare and elusive *Lonicera dioica* var. *dioica*.

EDITOR'S NOTE

In addition to the above, the Board refused to grant your Editor any degree of anonymity, and insisted that this shy violet's proper binomial be published ostentatiously in each of our quarterly journals. So here it is, along with a sincere plea that all of you send material of the sort herein printed; it is absolutely essential to the well-being of our infant organization, as well as to that of

Erna R. Eisendrath, editor of Missouriensis
Biology Department, Box 6811
Washington University
St. Louis, Missouri 63130

A BOOST FROM MISSOURI BOTANY'S BEST

All members of MONPS are probably aware that Julian Steyermark visited St. Louis in September. Probably none of us will ever have the good fortune of receiving a letter from Dr. Steyermark in which he expresses exactly our feelings about our Society--but Board member Edgar Denison did. Edgar sent Dr. Steyermark a copy of his most recent edition of Missouri Wildflowers as a gift. Along with his book he enclosed a letter about MONPS and Dr. Steyermark responded with the following message.

> "I am pleased to learn about the renewed activity in Missouri, and the Missouri Native Plant Society. I wish it all the best of success in its endeavors. It is most important to have the records of our native flora kept permanently up-to-date."

* * * * * * * *

D A S H T O D O T !

Get out your copy of Steyermark's Flora of Missouri right away, and add dots to that author's county maps to represent the list of plants and places printed below. This list was laboriously compiled by a member of our Board, Arthur Christ, a truly avid field botanist who has been collecting information about our native plants ever since the days when he botanized with Steyermark himself, in the 1930's(?).

Art has performed a truly laborious task in making up the list, which involved not only delving back into his own records and memories, but also thumbing through all 1654 pages of Steyermark's text. (He points out, however, that he has not listed the many plants that have been widespread for years, but which Steyermark does not confirm by dots for all the counties to which even he assumed they had probably spread; Steyermark treated such plants as he did *Arabis canadensis*, awarded only 70-odd dots, of a possible 114, but described in the text as "Throughout Missouri, and probably in every county of the state."

After you have carefully added the proper dots to county maps in your personal copy of our botanical bible, PLEASE go over your own records, and send Jim Henry Wilson lists of further locations of species not so placed by Steyermark, or spotted by Art's eagle eye to Natural History, Missouri Department of Conservation, P.O. Box 180, Jefferson City, Missouri 65102.

ADDITIONAL COUNTY RECORDS

Lycopodium lucidulum Michx. var. lucidulum - Howell Co. 4½ miles west of Willow Springs

Botrychium dissectum Spreng. var. dissectum - Warren Co. Pickering's Sunny Ranch

Echinodorus cordifolius (L.) Griseb. - St. Charles Co.

Sagittaria graminea Michx. var. graminea Michx. - Warren Co. Daniel Boone State Forest

Sagittaria latifolia Willd. var. latifolia f. latifolia - Jefferson Co. Pacific Palisades

Holcus lanatus L. - St. Louis and Jefferson Counties

Muhlenbergia cuspidata (Torr.) Muhl. - Jefferson Co.

Stipa spartea Trin. - St. Clair Co. Taberville Prairie

Anthoxanthum odoratum L. - Jefferson Co.

Phalaris arundinacea L. - Lincoln and St. Francois Counties

Scleria verticillata Muhl. - Shannon Co. Sutton Creek

Carex cherokeensis Schw. - Taney Co. Hercules Glade

Carex buxbaumii Wahl. F. buxbaumii - Nodaway Co. Highway 148 and NN

Carex crus-corvi Shuttlw. - Jefferson Co. junction of Meramec & Mississippi Rivers
Carex virescens Muhl. - Iron Co. Royal Gorge
Carex laeviconica Dew. - Holt Co. Squaw Creek Wildlife Area
Carex vesicaria L. var. monile (Tuckerm.) Fern. - Shannon Co. Flat Rock Pond
Xyris torta Sm. - St. Clair Co. Taberville Prairie
Tradescantia ozarkana Anderson & Woodson - Christian Co.
Heteranthera limosa (Sw.) Willd. - Butler Co.
Juncus torreyi Coville - Jefferson Co. Mammouth Creek
Erythronium americanum Ker - Madison Co. lower Rock Creek
Trillium nivale Riddell - Crawford Co. Meramec River near Cook Station
Habenaria flava (L.) R. Br. var. flava - St. Clair Co. Taberville Prairie
Isotria verticillata (Willd.) Raf. - Stoddard Co. SE¼ Sect. 1, T25N, R10E
Triphora trianthophora (Sw.) Rydb. - Ste. Genevieve Co. Orchid Valley
Calopogon tuberosus (L.) BSP. - St. Francois Co. St. Francois State Park
Spiranthes ovalis Lindl. - Montgomery Co. Graham Cave State Park & Franklin Co. Arboretum
Spiranthes lucida (H.H. Eat.) Ames - Jefferson Co. Mammouth Creek
Goodyera pubescens (Willd.) R. Br. - Texas and Shannon Counties
Liparis loeselii (L.) Richard - Bollinger Co. Blue Pond & Carter Co. Highway 60, 1 mile west of Highway 21, N½, SW¼, Sect. 2, T27N, R1E
Urtica chamaedryoides Pursh - Mississippi Co. Highway A near Big Oak Tree State Park
Polygonum cespitosum Blume var. longisetum (De Bruyn) Steward has spread to many counties
Geocarpon minimum Mackenzie - Dade Co.
Holosteum umbellatum L. - Jefferson & Franklin Counties
Lychnis alba Mill. - Christian Co.
Silene cserei Baumg. - Ste. Genevieve and St. Francois Counties
Dianthus prolifer L. - Greene Co.
Brasenia schreberi Gmel. - Warren Co. Pickering's Sunny Ranch
Draba aprica Beadle - Ste. Genevieve and Berry Counties
Rorippa sylvestris (L.) Bess. - St. Charles Co.
Hesperis matronalis L. - St. Louis Co.
Erysimum cheiranthoides L. - Franklin Co.
Erysimum inconspicuum (S. Wats.) MacM. - Crawford Co.
Camelina microcarpa Andrz. - Washington Co.
Descurainia sophia (L.) Webb - Holt Co.
Sedum telephium L. - Ste. Genevieve Co. Pickle Spring
Pyrus ioensis (Wood) Bailey - Jefferson Co.
Potentilla arguta Pursh - Cedar Co. Thoreson Tract
Filipendula rubra (Hill) Robins. - St. Francois Co. St. Francois State Park
Rubus ostryifolius Rydb. - Barry Co. Roaring River State Park

Prunus mahaleb L. var. mahaleb - Taney Co. Table Rock Glade and Greene Co.

Lotus corniculatus L. - has spread to many counties

Sesbania exaltata (Raf.) Cory - Stoddard Co.

Coronilla varia L. - has spread to many counties

Geranium pusillum L. - Stone Co.

Geranium molle L. - Barry Co.

Erodium cicutarium (L.) L'Her - Greene Co.

Polygala incarnata L. - Howell Co.

Floerkea proserpinacoides Willd. - Lincoln Co. Ciuvre River State Park and Pike County Du Pont Reservation

Toxicodendron toxicarium (Salisb.) Gillis - Taney Co. Hercules Glade

Acer nigrum Michx. f. nigrum - Jefferson Co.

Helianthemum bicknellii Fern. - Douglas Co.

Passiflora incarnata L. - Franklin Co.

Oenothera speciosa Nutt. - Ste. Genevieve Co.

Oenothera triloba Nutt. - Washington Co. entrance to Washington State Park

Aralia nudicaulis L. - Jefferson Co. Pacific Palisades

Spermolepis echinata (Nutt.) Heller - Butler Co.

Heracleum maximum Bartr. - Franklin Co. Arboretum

Cornus florida L. f. rubra (Weston) Palmer and Steyermark - Howell Co.

Nyssa sylvatica Marsh. var. sylvatica - Stoddard Co.

Amsonia ciliata Walt. var. filifolia Wood - Howell Co. Highway 160 and Norfork River

Ipomoea coccinea L. - Ste. Genevieve Co.

Phlox maculata L. var. pyramidalis (Smith) Wherry - Jefferson Co. Mammouth Creek

Lithospermum latifolium Michx. - Warren Co. near Lost Creek N½, Sect. 20, T46N, $3W

Lappula echinata Gilib. - Taney Co.

Physostegia formosior Lunell - St. Charles Co.

Pycnanthemum muticum (Michx.) Pers. - Stoddard Co. near Idlewild

Solanum villosum Mill. - Greene Co.

Bacopa rotundifolia (Michx.) Wettst. - Stoddard Co.

Chelone obliqua L. var. speciosa Pennell and Wherry - Pike Co.

Buchnera americana L. - Taney Co.

Pedicularis lanceolata Michx. - St. Francois Co. St. Francois State Park

Dicliptera brachiata (Pursh) Spreng. - Carter Co.

Viburnum dentatum L. var. deamii (Rehd.) Fern. - Audrain Co.

Cayaponia grandifolia (T. & G.) Small - Butler Co.

Liatris squarrosa (L.) Michx. var. squarrosa - Warren Co.

Grindelia lanceolata Nutt. f. lanceolata - Jefferson Co.

Gutierrezia dracunculoides (DC.) Blake - Taney Co.

Chrysopsis villosa (Pursh) Nutt. var. camporum (Greene) Cron. - St. Charles Co.

Solidago buckleyi T. & G. - Ste Genevieve Co. Hawn State Park

Solidago canadensis L. var. gilvocanescens Rybd. - Montgomery Co.

Solidago riddellii Frank - Jefferson Co. Mammouth Creek

Aster paludosus Ait. subsp. hemisphericus (Alex) Cron. - Howell Co.

Aster furcatus Burgess - Madison Co. lower Rock Creek

Aster cordifolius L. var. cordifolius - Texas Co.

Aster puniceus L. var. firmus (Nees) T. & G. f. lucidulus (Gray) Fern. - Jefferson Co. Mammouth Creek

Aster ptarmicoides (Nees) T. & G. - Madison Co.

Ratibida columnifera (Nutt) Woot. & Standl. f. columnifera - Taney Co. Highway 165 near Table Rock Dam

Helianthus salicifolius A. Dietr. - Taney Co. Dewey Bald & Turkey Creek Valley

Bidens cernua L. var. cernua f. cernua - St. Charles Co.

Matricaria chamomilla L. var. chamomilla - Franklin & Cape Girardeau Counties

Carduus nutans L. - has spread to many counties

Cirsium vulgare (Savi) Tenore - Jefferson Co.

Cirsium muticum Michx. var. muticum f. muticum - St. Francois Co., St. Francois State Park

Centaurea cyanus L. - Franklin Co.

Centaurea vochinensis Bernh. - Franklin Co.

Centaurea maculosa Lam. - St. Francois Co.

Tragopogon porrifolius L. - has spread to many counties

Tragopogon dubius Scop. - has spread to many counties

Sonchus oleraceus L. f. cleraceus - Warren Co.

Sonchus asper (L.) Hill - Jefferson Co.

Agoseris cuspidata (Pursh) Raf. - Montgomery Co. Danville Wildlife Area

Prenanthes aspera Michx. - Shannon Co.

* * *

FROM POSSUM TROT

Missouri naturalists know the names of Ginny and Len Hall as associated with all the things dear to the naturalist heart; and now they endear themselves once again, as active members of MONPS, who will keep us informed about native plants in their well known property, Possum Trot Farm, in northern Iron County.

Their first report concerns the Purple Fringeless Orchid, Habenaria peramoena Gray, observed blooming during July in three locations with acid soil, in low, open woods and also among the dense weeds of a wet meadow. Surprisingly some of the twelve plants found still had evidence of bloom during the first week in September; sadly these plants are all that were found this year, although five years ago there were twenty or more of them. Len feels, however, that they may stage a comeback, as they are now being handled with greater care with protection from both grazing and mowing.

A second very welcome report concerns a rediscovery of Spiranthes lacera (Raf.) Raf., the Slender Ladies' Tresses, which they had not seen for almost twenty years!

One specimen was growing perkily in the very middle of a path, but was recognized, even though it has changed its Latin name during those two decades, from Spiranthes gracilis (Bigel.) Beek.

Orchids to you, Ginny and Len!

* * * * * * * *

A PLEA FOR PANAX

Fall is a beautiful transitional season for Missourians as the weather moderates and the deciduous forests assume breathtaking hues from leaves preparing for their annual drop. It is also the time of year that wild American ginseng (*Panax quinquifolium* L.) is dug by hundreds of avid searchers in areas south of the Missouri River and bordering the Mississippi River in the northern half of the state. And dig they do. In 1977, for example, approximately 5,000 pounds of dried roots were harvested from wild populations and shipped from the state. This totaled about 500,000 roots of ginseng, clearly a considerable quantity of plants removed in one year from the forests of Missouri. As reproduction of the species is entirely from seed, no fewer than half a million new seedlings must be established annually to sustain this loss from human digging. Obviously many more seeds must germinate and develop to keep ahead of further losses from habitat depletion, predation, and disease.

Fortunately for the survival of the species, many diggers restrict their harvesting to a period roughly from mid-August until frost when the fruit turns red. After digging they then plant the "mature" seeds and thereby set the stage for redevelopment of the population. In addition, most do not dig those plants having one or two leaf prongs. These simple procedures when followed encourage the formation of new generations of ginseng, result in population diversity, and also give the collector a potential crop year after year. Such diggers are thus functioning in dual capacities as planters to conserve the species and as hunters-gatherers to supplement often modest incomes.

Yet there are some individuals who do not heed these guidelines (as proposed by the Department of Conservation and from whom a pamphlet "Wild American Ginseng" is available free of charge). Although most dig at the appropriate time of year, too many remove nearly all plants from the population including young ones without seed, even when their small roots give little financial return. Diggers prone to this type of destruction are also those most likely to perpetrate such deeds on public-held land by digging without a permit and on private property without obtaining permission to dig from the owner. Such thieves do more harm than they might imagine. For instance, recently one or several persons invaded a private, fenced, and posted tract of land owned by a gentleman dedicated to conserving the diverse and unique flora found there. What a shock when he realized that the large and only stand of ginseng in the area had been essentially eradicated; only three small plants remained from hundreds in the population that included young as well as very old specimens. The many four prongers were the largest and undoubtedly the oldest ginseng plants that I had ever seen in the state. Compounding the loss of these specimens is the fact that many had been individually tagged and numbered as a part of the growth and developmental studies sponsored through Washington University by a grant from the Department of Conservation. Any caring individual stumbling on such a population would know immediately that it was a part of an experiment, yet some diggers lack all appreciation for plants per se, have no respect for private property, and are concerned little with studies that might aid ultimately in the survival of the species and might even play a role in expanding the species as a crop.

Indeed the pressure on *Panax quinquifolium* to exist in the wild may rise in the future, for demand is increasing and the price of quality root is rising concomitantly. In the Hong Kong auctions of May 1979, for example, wild root reached $230 (US) per pound sold in barrel lots, the highest price by far ever paid for American ginseng. The end is nowhere in sight as demand in the Orient continues unabated and as new markets expand in Europe and North America.

Moreover, it will become more and more difficult for those who wish to conserve ginseng to do so; it may also become hard for those who plan "woods-grown" crops to do so for the same reason. The state may find ultimately that it will be forced to pass legislation with stiff fines and penalties for poaching ginseng and also for harvesting it out of season and for digging young plants at any time. The need may be far greater than anyone envisioned a few years ago, for high financial gain will be difficult to counteract. Severe, enforced penalties may be the only way to deter those bent on destroying an important element of Missouri's flora.

Walter H. Lewis
Department of Biology
Washington University
St. Louis, Missouri 63130

* * * * * * *

BOTANIZING MISSOURI IN ILLINOIS

Woody Plants and Spring Herbs of Grand Tower Island

Would you like to cross the Mississippi River into Illinois and still botanize in Missouri? You can, in an interesting area known as Grand Tower Island in Perry County.

Grand Tower Island comprises approximately 1260 acres of land located less than one mile south of the Illinois village of Grand Tower. The area is not really an island since it is no longer totally surrounded by water. A levee road protecting the "island" forms the western boundary of Grand Tower Island and parallels the Mississippi River. A horseshoe-shaped body of water separates the island from land to the north, east, and south. Known as the Grand Tower Chute, this water goes beneath the levee and to the Mississippi River. The Chute was at one time a channel of the Mississippi River. Consequently, Grand Tower Island, despite its location east of the current channel of the Mississippi River, is in Perry County, Missouri. It occupies parts of Section 31, T10S, R3W, Section 36, T10S, R4W, Sections 6 and 7, T11S, R3W, and Sections 1 and 12, T11S, R4W. It may be reached by crossing the Mississippi River by ferry at Wittenberg or by bridge at Cape Girardeau and proceeding to Grand Tower, Illinois. From Grand Tower, take the levee road south from town for about one-half mile. Grand Tower Island will be to the east.

The island is comprised of loess and sand and has several low ridges and swales. Although forested in the past, all but the peripheral zone bordering Grand Tower Chute is under cultivation. There are now only about 120 acres of woods.

The woods that do occur show great signs of disturbance by man, although a part of the woods in Section 6 has a unique assemblage of herbaceous plants. Where the woods occur, there is an 85% closure of the canopy.

Several large trees occur along the periphery of Grand Tower Island adjacent to the Grand Tower Chute. Twenty-four cottonwoods (*Populus deltoides*) have a diameter of 18" or greater, while there are three sycamores (*Platanus occidentalis*) in this size range, two honey locusts (*Gleditsia triacanthos*), and one each of common hackberry (*Celtis occidentalis*), black willow (*Salix nigra*), osage orange (*Maclura pomifera*), and silver maple (*Acer saccharinum*).

The shrub layer is dominated by saplings of the major tree species. Great entanglements of grape (*Vitis aestivalis*) often form impenetrable thickets. Percent cover in the shrub layer is 5.9.

The herbaceous layer is very diverse. In the spring, the dominant herbs are yellow corydalis (*Corydalis flavula*) and rough bedstraw (*Galium aparine*). By summer, the ground is completely obscured by the rank growth of false nettle (*Boehmeria cylindrica*) and spotted touch-me-not (*Impatiens biflora*).

The island woods is remarkable, however, because of an assemblage of unusual herbs which occurs in the center of the main wooded area of Section 6.

Instead of the usual dominants found in a floodplain woods, this area is dominated by the round-leaved stinging nettle (*Urtica chamaedryoides*), smooth rock cress (*Arabis glabra*), small waterleaf (*Phacelia ranunculacea*), and garlic mustard (*Alliaria officinalis*). The first three of these are rare for southeastern Missouri and represent the first records for Perry County. The garlic mustard was heretofore unknown from Missouri.

A survey of the late summer and autumnal flora of Grand Tower Island has not been completed.

Of zoological interest was the observation of a single specimen of the western hognose snake (*Heterodon nasicus*), known previously in Missouri from Scott and Mississippi Counties.

by: Robert H. Mohlenbrock

* * *

VIVA VICTORIA GLADE!

In a recent issue of The Nature Conservancy News (July/August, 1979), the national organ of this important group, we find an exciting entry about Missouri. It concerns the recent acquisition of Victoria Glade, in Jefferson County, and is quoted herewith verbatim:

> "A glade is a natural opening in a forest containing both prairie species, particularly grasses, and species adapted to rocky, desert-like conditions. Victoria Glade, a 195-acre area in eastern Missouri, is the best-known example of this ecotype in the glade region, and the only protected example. It consists of 110 acres of oak-hickory forest and an 85-acre cedar glade occurring on an outcrop of thin-bedded dolomite or dolomite limestone. Twelve native grasses and 75 wildflower species have been identified on Victoria Glade, including lead plant, asters, sedge, shooting star, foxglove, bush clover, blazing star, violet wood sorrel, Missouri coneflower, goldenrod, vervain, and Fremont's leather flower, an endemic to eastern Missouri glades."

The lead plant is, of course, *Amorpha conescens*; but "asters" is not so simple: *A. oblongifolius, A. parviceps, A. patens, A. ptarmicoides* and *A. sericeus* have all been identified on the glade; and "sedges," too, covers a multitude of genera: *Carex meadii, Eleocharis compressa, Fimbristylis caroliniana* and *Scirpus lineatus*; the "shooting star" is *Dodecatheon meadia*; "the foxglove" probably a *Gerardia* or *Seymaria* (but certainly NOT *Digitalis*!); "bush clover" is *Lespedeza virginica;* "blazing star" represents both *Liatris aspera* and *L. cylindracea*; the "violet wood sorrel" is of course *Oxalis violacea*; the "Missouri coneflower," *Rudbeckia missouriensis*; "goldenrod" is found in three species (*Solifago gattingeri, S. Missouriensis* and *S. radula*); "Vervain" in two (*Verbena canadensis* and *V. simplex*).

But it is the "Fremont's feather flower" that we wish to point up: it is such a narrow endemic, that its presence, wherever it is found within the limits of its distribution, is cause for excitement. The distribution of *Clematis fremontii* var. *riehlii* was carefully studied in the 1940's by Ralph O. Erickson as partial fulfillment

of the requirements of a Ph.D. at Washington University. In a revision of his doctoral dissertation, published in the Annals of the Missouri Botanical Garden in 1945, Erickson wrote:

> "*C. fremontii* var. *riehlii* is restricted to an area of somewhat more than 400 square miles in Jefferson County and portions of two adjacent counties in east-central Missouri.....The plant is wholly restricted to glades, rocky barrens which occur on south and west facing slopes of otherwise wooded ridges .....They are characterized by a thin soil cover, which is slightly acid and fairly high in organic matter, and by an extreme set of environmental conditions: saturation to the point of seepage in late fall and early spring, and dessication during the summer months."

Studies of our lovely free-standing *Clematis* plant have suggested that it is limited to this unusual sort of habitat "because it finds competition with other species too severe elsewhere." Pursuing this thought one step further, Erickson prognosticates that the plant would, therefore, "be expected to reach its optimum density on the large glades where biological competition is presumably less severe."

Victoria Glade which has only recently been set aside as a treasure belonging to our state, is, as glades go, very large indeed; and, if we use figures worked out by Erickson, we find that *Clematis fremontii* var. *riehlii* on an average is found growing in numbers of about 33 plants per acre, it is immediately obvious that those with the foresight to protect the plants on the glade just south of Hillsboro, in Jefferson County have done a job for which all naturalists in the state must be grateful. (This pleasantly positive observation somewhat counterbalances the negative facts given us by Dr. Lewis, concerning another of our important....though for different reasons....natives.)

* * *

FURTHER ORCHID FACTS

Early in June of this year, four members of MONPS took off for Howell County in search of *Cypripedium reginae*, beginning their quest, in Mark Twain National Forest, along a creek at the bottom of rather low hills, which are covered by open forest, reaching at all times to the creek. The first cliff encountered, on the north side of the creek, facing south, but somewhat shaded by trees, was the habitat of five plants, on a very high seam. By following the cliff upstream we found 35 more plants, seven of these specimens of *Cypripedium reginae* in flower.

An outstanding display of *Adiantum capillus veneris* (Venus' Hair Fern) covers the bottom part of the cliff, while on low, north-facing cliffs upstream and opposite the orchids, there is a small population of *Sullivantia renifolia*, a number of specimens of which were in flower, as well as a few *Aralia racemosa*, which we also found in bloom. Other than that, the only evidence of Angiosperms on this north-facing bluff was the abundant foliage of *Heuchera puberula*, on which we found no blooms. On the south-facing cliffs, associated with the orchids were *Aquilegia canadensis*, *Silene caroliniana* and *Monarda fistulosa*, all in bloom.

Proceeding downstream a short distance there is a high, long, north-facing cliff with an outstanding display of *Cypripedium reginae*. We counted 73 plants with 27 flowers, seven of which were on a single plant! In this habitat the plants were growing on a high ledge, in an ooze of wet sand and limestone; the rock jutting out above forms an overhang.

We also visited a second valley in which Dr. Julian Steyermark found three specimens of *Cypripedium reginae* in 1937; we found none. However, on going downstream, we encountered a north-facing cliff, about 150 meters long, which was nearly covered by *Sullivantia renifolia*, with great numbers in flower. As the cliff is perpendicular, and has no ledges, the plants appeared to be glued to the rock wall.

The cliffs in the entire area belong to the Roubidoux formation of the Ordovician System, consisting of sandstone, chert and interbedded fine-grained dolomite (as explained on the geological map of Missouri). The pH factor of soils in which *Cypripedium reginae* was found varies from 5.2 to 6.2.

All the plants we saw (some 113 in all) are rather uniformly about 65 centimeters tall, when in flower; the foliage is light green in color. The blooming season of *Cypripedium reginae* is extremely short; a week after our visit no flowers were in evidence.

Edgar Denison
Mary Wiese
Joy Krebs
John Krebs

* * * * * * * * *

WE ARE NOT ALONE!

Some members of our Society have expressed doubt about accepting the acronym we are using in order to save space; to represent the Missouri Native Plant Society by the letters MONPS still seems acceptable to our President (who made it up!) and to the editorial "we".....especially as we have just learned that the Native Plant Society of Colorado calls itself unabashedly CONPS. However, this has set us to wondering how this would work in other states. If, as our President points out, they have such an organization in Virginia, the acronym VANPS might well lead to gaining them a reputation for running around with WILD flowers!

* * * * * * * * * * * * * * * *

COMING UP: THE NEXT BOARD MEETING

The second Board meeting of our Society will be held at 10:00 a.m., Saturday morning, December 1, at Babler State Park. Located 20 miles west of St. Louis, on Missouri 109, just off St. Louis County CC, this lovely park covers 2,444 acres, most of which are still part of the Oak-Hickory forest characteristic of the whole Ozark Plateau. The tennis court and swimming pool will probably not attract members of MONPS at that time of year, but horseback riding and/or hiking could be very appealing on December 1....and, if the weather is not conducive to out-of-door activity, there is also a nature interpretive center, with a naturalist on duty all year-round.

The Board will meet (and happily greet other MONPS members) in the dining hall-recreation center connected with the Jacob L. Babler Outdoor Education Center for the Handicapped, which also includes an administration building, eight large cabins and a trail for disabled campers. There are also 84 camping sites and 250 picnic grounds, all with restrooms designed to be accessible by wheelchair. (Such reports of our meeting places are not included from any ulterior feeling that our membership is largely overage or handicapped in other ways; quite the opposite is true, in fact: we believe that such provisions are evidence of intelligent planning by our state officials, and we're proud to point them out!)

SALVAGE ONE

A section of railroad is being considered for abandonment in Mississippi County between East Prairie and Wyatt. A number of rare or endangered plants are listed for Mississippi County. Anyone interested in a rare plant salvage operation might survey the railroad right-of-way for these species, or others of interest.

Bacopa acuminata - Water Hyssop swamsp and sandy open knolls	Status Undetermined
Callirhoe triangulata - Clustered Poppy Mallow prairies and glades	Rare
Carex physorhyncha - Bellows-beaked Sedge sandy open ground	Endangered
Cayaponia grandifolia - Silva Manso rich low woods	Rare
Chionanthus virginica - Fringe-tree rocky wooded limestone ledges	Rare
Cyperus dipsaciformis - Teasel-like Cyperus sandy fields, sandy open woods	Status Undetermined
Limnobium spongia - American Frogbit sloughs and drainage ditches	Rare
Manisuris cylindrica - Joint Grass prairies and sandy open ground	Rare
Polypremum procumbens - NCM sandy open ground	Status Undetermined
Sisyrinchium atlanticum - Blue-eyed Grass wet prairies and meadows	Rare
Spiranthes ovalis - Ladies Tresses low moist rich woodlands	Rare
Toxicodendron toxicarium - Poison Oak limestone glades and slopes	Rare

OFFICERS OF THE MISSOURI NATIVE PLANT SOCIETY

President: Jon L. Hawker
Biology Department
St. Louis Community College
at Meramec
11333 Big Bend Blvd.
St. Louis, MO 63122

Vice President: Edgar Denison
544 East Adams St.
St. Louis, MO 63122

Secretary: Paul Nelson
Division of Parks and Recreation
P.O. Box 176
Jefferson City, MO 65101

Treasurer: James H. Wilson
Department of Conservation
P.O. Box 180
Jefferson City, MO 65102

Editor: Erna R. Eisendrath
Biology Department
Box 6811
Washington University
St. Louis, MO 63130

Directors: (3 years) John Karel
Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65101

Robert Mohlenbrock
Department of Botany
Southern Illinois University
Carbondale, Illinois 62901

(2 years) Melvin Conrad
Biology Department
Northeast Missouri State University
Kirksville, MO 63501

Mary Wiese
711 North Taylor
St. Louis, MO 63122

(1 year) Arthur Christ
3458 A Watson Rd.
St. Louis, MO 63139

Kenneth Olson
Biology Department
The School of the Ozarks
Point Lookout, MO 65726

ATTENTION

Future editions of Missouriensis will be mailed only to MONPS members.

* *

MEMBERSHIP APPLICATION

MISSOURI NATIVE PLANT SOCIETY

Name _____

Address _____

City _____ Zip _____

Enclosed is my contribution to the preservation of Missouri native plants in the amount of _____.

Membership Categories

Student	$ 2.50
Regular (Individual or Family)	5.00
Contributing	15.00
Sponsoring	50.00
Sustaining	100.00
Group	25.00

Mail application and contribution to:

Dr. Jim Henry Wilson
Missouri Department of Conservation
Box 180
Jefferson City, Missouri 65102